REMARKS

In the Office Action the Examiner noted that claims 12-16 and 22-25 are pending in the application, and the Examiner rejected all claims. The Examiner's rejections are respectfully traversed below, and allowance of claims 12-16 and 22-25 is earnestly solicited.

Rejection of Claims Under 35 U.S.C. §102(b)

In item 3 on pages 2-3 of the Office Action the Examiner rejected claims 12-14 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,837,568, issued to Yoneda et al. (hereinafter referred to as "Yoneda"). This rejection is respectfully traversed.

Previously presented claim 12 of the present invention recites:

> A thin film transistor (TFT), comprising:
> a substrate;
> a semiconductor layer formed over said substrate having end portions;
> a first insulating layer disposed on said semiconductor layer so as to expose ones of the end portions of said semiconductor layer;
> a gate electrode formed over said first insulating layer;
> a capping layer formed over said gate electrode;
> spacers formed over said first insulating layer and on both sidewall portions of said gate electrode and said capping layer;
> high-density source and drain regions formed at the ones of the end portions of said semiconductor layer exposed beyond said spacers, the high-density source and drain regions spaced apart from the gate electrode and the capping layer; and
> source and drain electrodes which directly contact, respectively, said high density source and drain regions.

Therefore, the "source and drain electrodes....directly contact, respectively," the "high density source and drain regions" of the thin film transistor. In other words, the source and drain electrodes are not connected to the high density source and drain regions through via holes formed in other layers of the thin film transistor.

The Examiner has stated in item 3 on page 2 of the Office Action that Yoneda discloses in figures 12 and 13 a thin film transistor with "source and drain electrodes 17/18 which directly contact, respectively, said high density source and drain regions." The Applicants respectfully disagree with the Examiner's understanding of Yoneda.

Figure 12 appears to show source and drain electrodes 17,18 formed on top of the first interlayer insulation film 16, which is itself formed on top of the gate insulation film 12 (Figure 12). The electrical connection between the source and drain electrodes 17,18 and the source

and drain regions 11S,11D is through contact holes CT1, CT2 in the interlayer insulation film 16 and the gate insulation film 12. These "contact holes," commonly referred to as via holes, are needed to provide the connection between the source and drain electrodes and the source and drain regions because the source and drain electrodes do not "directly contact" the source and drain regions. This is further supported by the specification of Yoneda, which states that "contact holes CT1, CT2 are formed....forming openings to the gate insulation film above the drain and source regions" (Column 14, Lines 59-61), and the drain and source electrodes are formed "such that they are respectively connected to the drain and source regions 11D,11S via the contact holes CT1, CT2" (Column 14, Lines 64-67).

Therefore, the source and drain electrodes in Yoneda are connected to respective source and drain regions by via holes referred to as "contact holes." This is in direct contrast to claim 12 of the present invention, in which the "source and drain electrodes....directly contact, respectively," the "high density source and drain regions" of the thin film transistor. In the claimed invention, the source and drain electrodes connect with the source and drain regions which are formed at the ones of the exposed end portions of the semiconductor layer, while in Yoneda the source/drain electrodes connect with the source/drain regions at the end portions of the semiconductor layer through the contact holes in the insulation layer.

Accordingly, Yoneda does not appear to recite every element of the Applicants' claim 12. In order for a document to anticipate a claim, the document must teach each and every element of the claim (MPEP §2131). Therefore, since Yoneda does not teach the features recited in independent claim 12, as stated above, it is respectfully submitted that claim 12 patentably distinguishes over Yoneda, and withdrawal of the §102(b) rejection is earnestly solicited.

Claims 13 and 14 depend from claim 12 and include all of the features of that claim plus additional features which are not taught or suggested by Yoneda. Therefore, it is respectfully submitted that claims 13 and 14 also patentably distinguish over Yoneda.

In item 4 on pages 3-4 of the Office Action the Examiner rejected claims 22 and 23 under 35 U.S.C. 102(b) as being anticipated by Yoneda. Claim 22 also recites the feature discussed above pertaining to claim 12, namely "source and drain electrodes which directly contact, respectively, said high density source and drain regions." Therefore, for the same reasons discussed above, the Applicants respectfully submit that independent claim 22 patentably distinguishes over Yoneda.

Claim 23 depends from claim 22 and includes all of the features of that claim plus

additional features which are not taught or suggested by Yoneda. Therefore, it is respectfully submitted that claim 23 also patentably distinguishes over Yoneda.

Rejection of Claims Under 35 U.S.C. §103(a)

In item 6 on page 4 of the Office Action the Examiner rejected claims 15, 16, and 24 under 35 U.S.C. 103(a) as being upatentable over Yoneda in view of Yamazaki et al.

Claims 15 and 16 depend from claim 12 and include all of the features of that claim plus additional features which are not taught or suggested by the prior art. The deficiencies of Yoneda vis-à-vis the present invention, as discussed above, are not cured by Yamazaki et al. Therefore, it is respectfully submitted that claims 15 and 16 also patentably distinguish over the prior art.

Claim 24 depends from claim 22 and includes all of the features of that claim plus additional features which are not taught or suggested by the prior art. Therefore, for the same reasons discussed above, it is respectfully submitted that claim 24 also patentably distinguishes over the prior art.

In item 7 on page 5 of the Office Action the Examiner rejected claim 25 under 35 U.S.C. 103(a) as being upatentable over Yoneda in view of Yamazaki et al. as applied to claim 22, and further in view of U.S. Patent No. 5,550,066, issued to Tang et al.

Claim 25 depends from claim 22 and includes all of the features of that claim plus additional features which are not taught or suggested by the prior art. Therefore, for the same reasons discussed above, it is respectfully submitted that claim 25 also patentably distinguishes over the prior art.

Summary

It is submitted that none of the references either taken alone or in combination teach the present claimed invention. There being no further outstanding objections or rejections, it is submitted that claims 12-16 and 22-25 are in condition for allowance. Reconsideration of the claims and an early notice of allowance are earnestly solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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Date: 11/3/03

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